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FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON

U. S. Forest Service. Pacific Northwest Forest Experiment Station

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION

ADDRESS REPLY TO
DIRECTOR
AND REFER TO

424 U. S. COURT HOUSE
MAIN AND SIXTH STREETS
PORTLAND, OREGON

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FOREST SERVICE
CALIFORNIA FOREST
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R-NW
Forest Survey

May 29, 1936

99.54
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no. 46

California Forest & Range Exp. Station,
332 Giannini Hall,
Berkeley, Calif.

Dear Sir:

Enclosed is a copy of "Forest Statistics for Deschutes County, Oregon". This is the seventh of the Forest Survey reports for counties in eastern Oregon and eastern Washington and is similar to those already sent you. The explanatory text which accompanied the first report should be referred to in connection with this and other reports for counties in eastern Oregon and eastern Washington.

Forest statistics published to date include those for all counties in western Oregon and western Washington, Klamath, Wasco, Jefferson, and Harney Counties in eastern Oregon, and Yakima and Klickitat Counties in eastern Washington. Additional copies of these reports will be furnished upon request.

Very truly yours,

Thornton T. Munger

THORNTON T. MUNGER, Director

Enclosure

CALIFORNIA FOREST AND RANGE
EXPERIMENT STATION
LIBRARY COPY

FOREST STATISTICS
FOR
DESCHUTES COUNTY, OREGON

FROM THE INVENTORY PHASE OF THE FOREST SURVEY

[Forest survey report no. 46
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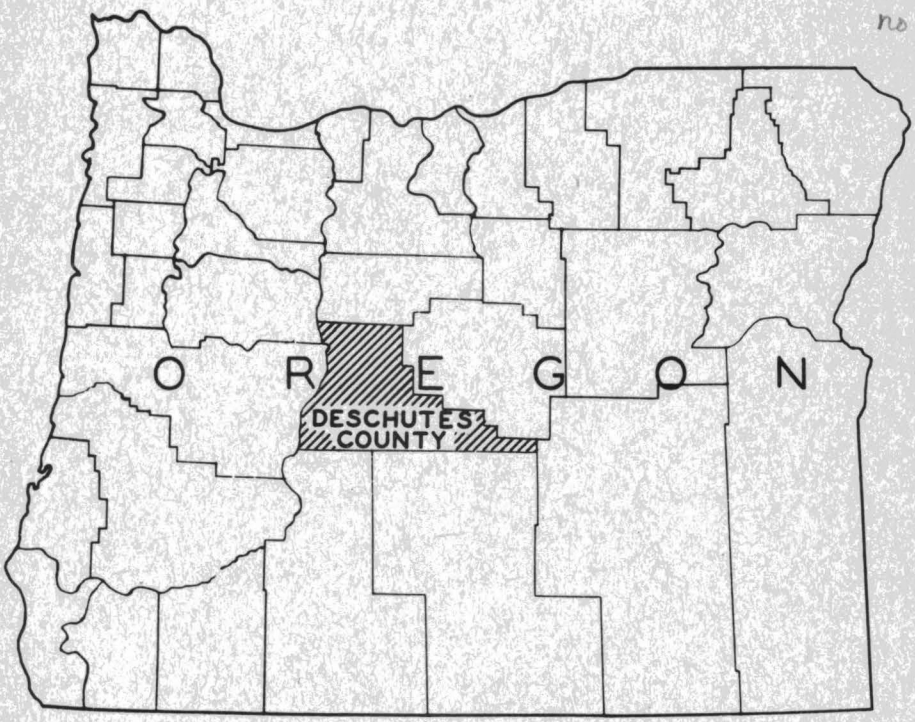
F762P
no. 46



U. S. DEPARTMENT OF AGRICULTURE — FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION
THORNTON T. MUNGER, DIRECTOR

ANDREWS, IN CHARGE OF FOREST SURVEY — R. W. COWLIN, ASSISTANT

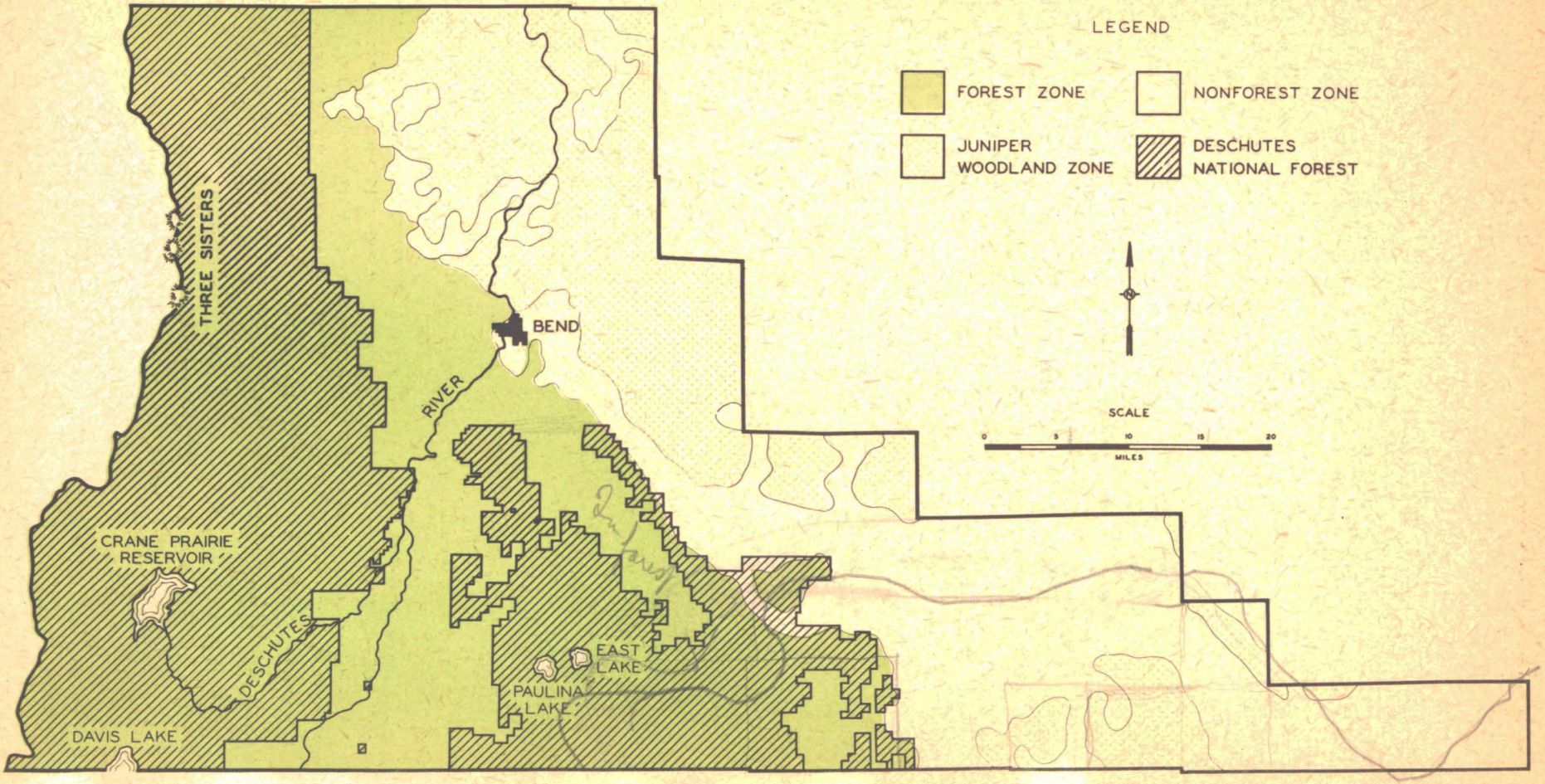
P. A. BRIEGLEB, IN CHARGE OF FIELD AND OFFICE WORK
IN DESCHUTES COUNTY

PORTLAND, OREGON — MAY 18 1936

FIGURE I

OUTLINE MAP
OF
DESCHUTES COUNTY OREGON

1936



FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON

By Philip A. Briegleb[1]

A large part of Deschutes County is in the center of a vast belt of ponderosa pine timberland, extending along the east slope of the Cascade Range from the Columbia River south into California. It is important in the logging and manufacture of ponderosa pine timber, and Bend, the county seat, is one of the leading sawmill cities of Oregon. This report presents results of the inventory phase of the forest survey of Deschutes County made by the Forest Service during 1934 as a part of a national survey of forest resources.[2] An explanatory text, "The Forest Survey of Eastern Oregon and Eastern Washington", contains detailed definitions of the forest types recognized, and a description of the methods used in the inventory.

Location and Description of County

Located in central Oregon, Deschutes County with a north-south dimension of about 55 miles extends from the Cascade Range eastward, 35 miles in the north, 105 miles in the south, and includes an area of 1,961,600 acres.

1/ THE FIELD AND OFFICE WORK OF THE FOREST SURVEY IN DESCHUTES COUNTY WAS DONE BY PHILIP A. BRIEGLEB, P. N. PRATT, W. V. S. LITCHFIELD, W. E. SANKELA, W. E. PELTO, H. M. WOLFE, F. H. VOGEL, A. W. HODGMAN, L. E. TUCKER, G. FROST, G. BAILEY, G. N. ALLMAN, AND C. S. SMITH.

2/ OREGON AND WASHINGTON WERE DIVIDED FOR PURPOSES OF THE SURVEY INTO TWO REGIONS, (1) THE DOUGLAS FIR REGION, CONSISTING OF THAT PART OF BOTH STATES WEST OF THE SUMMIT OF THE CASCADE RANGE, AND (2) EASTERN OREGON AND EASTERN WASHINGTON, THAT PART OF BOTH STATES EAST OF THE SUMMIT OF THE CASCADE RANGE. EACH REGION WAS DIVIDED INTO FOREST SURVEY UNITS COMPOSED OF ONE OR MORE COUNTIES. AT A LATER DATE A REPORT WILL BE ISSUED FOR EACH SURVEY UNIT PRESENTING A TEXTUAL DESCRIPTION OF THE UNIT, DETAILED INVENTORY SUMMARIES, AND STATISTICS OF GROWTH AND DEPLETION ANALYZED IN THE LIGHT OF THE INVENTORY. FINALLY, A REGIONAL REPORT WILL BE ISSUED WHICH WILL SUMMARIZE THE UNIT REPORTS, PRESENTING AND DISCUSSING FINDINGS FOR THE REGION AS A WHOLE. THE REGIONAL REPORT WILL INCLUDE AN INTERPRETATION OF THE FOREST SURVEY DATA AS RELATED TO OTHER ECONOMIC DATA AND A COMPREHENSIVE ANALYSIS OF THE REGIONAL FOREST SITUATION FROM BOTH A PHYSICAL AND AN ECONOMIC STANDPOINT.

The county is drained by the Deschutes River and its tributaries. This stream rises in the Cascade Range in the southwest portion of the county and flows generally northward. The nature of the material through which it flows, porous lava rock, pumice, and volcanic sand, contributes to the dearth of tributaries. The northeastern and eastern parts of the county consist of gently sloping plains interrupted by abrupt buttes and cinder cones. The western part is occupied by the Cascade Range which is characterized by snow-clad, dormant, volcanic peaks with steep, rugged slopes, surmounting moderately sloping benches. In the south-central part of the county are the long slopes, rounded ridges and occasional escarpments of the Paulina Mountains. Elevations range from about 2,400 feet above sea level where the Deschutes River leaves the county to above 10,000 feet on each of the majestic Three Sisters Mountains along the summit of the Cascade Range. Among the other prominent peaks of the Cascade Range in Deschutes County are Broken Top Mountain and Bachelor Butte both over 9,000 feet, and Maiden Peak and Mount Washington both over 7,800 feet in elevation. The Paulina Mountains are nearly 8,000 feet high. Lakes are a feature of the landscape, notable among which in the Cascade Range are Davis Lake, the Cultus Lakes, Lava Lake, Elk Lake, Sparks Lake, and Crane Prairie Reservoir, man-made for storage of irrigation water, and in the Paulina Mountains, Paulina and East Lakes occupying dormant Newberry Crater.

The diverse topography results in a wide range of precipitation within the county. Along the summit of the Cascade Range the average annual precipitation exceeds 60 inches and comes largely in the form of snow, but it diminishes markedly to the eastward to a minimum of about 5 inches on the high desert, where with the exception of two small zones of juniper no tree growth is found. At Bend, Weather Bureau records for the past 32 years show an average precipitation of 12.78 inches, but it must be recognized that most of the years in the last two decades have been in a so-called "dry cycle". In the Paulina Mountains and along the lower slopes of the Cascade Range, within the main body of the ponderosa pine forest, the annual precipitation probably ranges from 15 to 25 inches.

Deschutes County may be divided into three broad vegetative zones, the nonforest zone, the juniper woodland zone, and the forest zone (figure 1), determined largely by topography and precipitation.

The Nonforest Zone

Nonforest land amounts to 541,000 acres or about 28 percent of the area of the county. The great majority of this type of land occurs as extensive sagebrush covered plateaus southeast of Bend. The remaining nonforest land includes relatively small areas that have been cleared of juniper or timber for agricultural use, and occasional natural openings in the forest such as sagebrush areas, meadows, rocks and glaciers.

The Juniper Woodland Zone

Occurring in the southeastern and eastern parts, the juniper types cover about 320,000 acres or approximately one-sixth of the total area of the county. They form a portion of what has been called the

largest juniper forest in the world found as a transition between the sagebrush desert on the south and the bunch grass prairie on the north, and lying between the Cascade Range and the Blue Mountains.[3]

Seldom attaining saw-timber size and quality the volume of western juniper was estimated by the survey in cords only. The trees, ordinarily short and bushy or gnarled and fluted, occasionally grow to 50 feet in height, and over 40 inches in diameter at one foot above ground. Even the large specimens are usually of poor quality and form and consequently the wood is used only for fuel, fence posts and novelties.

There are three important classes of ownership in the juniper zone: 53 percent of both type area and volume is public domain, 35 percent is privately owned, and 10 percent is county owned.

The Forest Zone

The forest zone stretches from the summit of the Cascade Range eastward about 16 to 60 miles, widening toward the south. Excluding juniper the forest types cover about 1,100,000 acres (table 2) or about 56 percent of the total area of the county.[4]

Forest Types

Stands of saw-timber size (exclusive of lodgepole pine, type 25) occupy 46 percent of the forest zone, or approximately 514,000 acres (table 3). Of this area ponderosa pine stands occupy about 82 percent or nearly 420,000 acres. Pure ponderosa pine of saw-timber size with an area of over 330,000 acres, and an average volume of about 15 M board feet per acre is the most extensive, accessible and valuable forest type in the county. Occurring principally between the 3,100 foot and 6,000 foot elevations the largest block of this type with an area of some 140,000 acres lies north and west of Bend on the lower slopes of the Cascade Range. The remaining area lies south of Bend and contains a larger percentage of lodgepole pine type and cutover land. About 41 percent of this type is privately owned, 58 percent is in national forest ownership, the small remainder being in other public ownerships.

Immature ponderosa pine of sawlog size generally from 12 to 20 inches in d.b.h. covers nearly 54,000 acres. Roughly three-fourths of this area supports selectively-logged stands having a residual volume of from 1 M to 5 M board feet per acre, the remainder being occupied by even-aged stands which have followed burns. About 40 percent of the stands of

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3/ LAWRENCE, W. E. NATURALIST'S GUIDE TO THE AMERICAS. 1926

4/ THE LOCATION AND EXTENT OF THE FOREST TYPES ARE SHOWN BY THE FOREST SURVEY TYPE MAPS. FULL INFORMATION REGARDING ONE-INCH-TO-THE-MILE COUNTY TYPE MAPS AND ONE-FOURTH-INCH-TO-THE-MILE LITHOGRAPHED STATE TYPE MAPS AND HOW THEY MAY BE OBTAINED WILL BE FURNISHED UPON REQUEST. ADDRESS REQUESTS TO DIRECTOR, PACIFIC NORTHWEST FOREST EXPERIMENT STATION, 423 U. S. COURT HOUSE, PORTLAND, OREGON.

selectively-logged ponderosa pine have been classified as well stocked with reproduction, 30 percent as medium stocked, and 30 percent as poorly stocked.[5] About 70 percent of this type is in national forest ownership.

Of the sawlog types other than ponderosa pine by far the most extensive is the fir-mountain hemlock, with an area of nearly 85,000 acres. Confined to cool, moist slopes, mostly between 5,000 and 7,000 feet in elevation and composed principally of mountain hemlock this type is economically unimportant at this time, even though some of the better stands have a volume of 30 M board feet per acre. However, it does have a high value for watershed protection and for recreation. Almost all of this type is in national forest ownership.

Ponderosa pine seedlings, saplings and poles, with an area of more than 178,000 acres is the only economically important type in the reproduction group.[6] About 95 percent of this type is cutover land, the remainder occurring on old burns. Roughly 30 percent is well stocked, 40 percent is medium stocked, and 30 percent is poorly stocked. Ponderosa pine reproduction areas are owned almost equally by private and public interests, the latter being represented principally by national forest which has been brought about largely by land exchanges.

Lodgepole pine types cover more than 30 percent of the forest zone or 340,000 acres, little more than 1 percent of which is of sawlog size. Due to their slow growth and susceptibility to insect and mistletoe damage these types have little present economic value. One of the distinctive features of the forest zone of Deschutes County is the relatively large area of lodgepole pine types within the altitudinal range of commercial timber. Over 80 percent of the lodgepole pine types are in national forest ownership.

Nonstocked areas occupy less than 16,000 acres or little more than 1 percent of the entire forest zone. These areas have been deforested almost entirely by logging followed by fire or by fire alone. About 50 percent of the nonstocked area is in national forest ownership, most of it having been acquired by land exchange, and 42 percent is in private ownership.

Productive Capacity of the Forest Land

Table 4 shows the classification of the forest land by site. With the exception of lodgepole pine, juniper, noncommercial rocky areas, subalpine, and hardwood sites, the entire forest land was classified according to its ability to produce ponderosa pine or Douglas fir. Of the 710,000 acres so classified little more than 13 percent was rated according to the Douglas fir classification, the remainder being ponderosa pine

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5/ REPRODUCTION INCLUDES ALL TREES LESS THAN 11.1 INCHES IN D.B.H., I.E., POLES, SAPLINGS AND SEEDLINGS. CLASSIFICATION IN TERMS OF NORMAL STOCKING IS AS FOLLOWS: WELL STOCKED, 70 TO 100 PERCENT; MEDIUM STOCKED, 40 TO 69 PERCENT; POORLY STOCKED, 10 TO 39 PERCENT; NONSTOCKED, LESS THAN 10 PERCENT.

6/ SEE FOOTNOTE 4/.

or logically potential ponderosa pine site. Only the two poorest Douglas fir sites, IV and V, are represented in Deschutes County and 96 percent is site V, the poorest. Over 90 percent of the ponderosa pine land is site IV which is about average for the region.

Saw-Timber Volume

Three-fourths of the 6,630,000,000 board feet of saw timber in Deschutes County is ponderosa pine, 15 percent is mountain hemlock, the small remainder consisting principally of white fir, lodgepole pine, and Douglas fir. There are two important ownership classes. Private interests own 38 percent of the ponderosa pine volume and slightly more than 1 percent of that of other species; national forest ownership embraces over 60 percent of the ponderosa pine and over 70 percent of the total saw-timber volume in the county.

Insect Damage

During the past decade ponderosa pine stands, particularly in the northern and southeastern parts of the county, have suffered considerable losses from epidemic activity of the western pine beetle (Dendroctonus brevicomis). It is estimated that this insect alone killed 400 million board feet of ponderosa pine during this period or about 8 percent of the present stand in the county. Beetle damage appears to be cyclic in nature, and closely associated with climatic cycles. Due to drought conditions beetle destructiveness during the last decade was much greater than normal, and with the return of more favorable conditions for tree growth, depletion by insects may be expected to be greatly reduced.

The mountain pine beetle (Dendroctonus monticolae) is so destructive of lodgepole pine in this county that stands of this species seldom grow to sawlog size, but apparently have an entomological rotation of roughly 120 years.

Economic Development

Deschutes is the youngest of the 36 counties of Oregon, having been created only 20 years ago by division of Crook County. The town of Bend was incorporated in 1904 and had a population of 536 in 1910. The lumber industry began to develop to prime importance about 1916 and by 1920 Bend had become a city of 5,415 and the county seat of Deschutes County which then had a population of 9,622. By 1930 Bend had grown to 8,848 and Deschutes County to 14,749 largely through the expansion of the lumber industry.

The Oregon Trunk Railroad and the Union Pacific Railroad give Deschutes County rail outlet to the north. The Great Northern Railroad provides railroad service to the south, connecting with the main line of the Southern Pacific at Chemult, 30 miles south of the county. The Dalles-California Highway crosses the county north and south. The Central Oregon Highway extends from Bend to Burns. The McKenzie and Santiam Highways cross the Cascade Range into the Willamette Valley. In addition Deschutes

County is served by modern county and forest roads and other connecting routes.

The principal agricultural development is in the lower country. The irrigated area of 48,000 acres[7/] produces most of the agricultural income, which is derived largely from dairy products, grain, hay, and such specialty crops as potatoes and clover seed. The opportunities for future expansion in agriculture are limited by the relatively small area of arable land. Of the 541,000 acres of nonforest land in the county little more than 111,000 acres or less than 6 percent of the total area of the county is in farms. Most of the nonforest area is range land, much of which has been badly overgrazed.

The history of the economic development of Deschutes County is largely the history of its lumber industry. It employs directly nearly 40 percent of all gainfully employed. In 1934 the sawmills of the county numbered 13 with an aggregate 8-hour capacity of 912 M board feet, roughly three-fourths of which was provided by two mills. During the decade ending with 1934 the average annual lumber production of Deschutes County was 235 million board feet, or about one-fourth of the average annual production of all of eastern Oregon for this period. During the last four years of this period production diminished considerably, being but 57 percent of the average for the decade. In 1932 production fell to 37 percent of the average for the 10-year period, but has since increased annually. Over 99 percent of the lumber produced was ponderosa pine.

Both the installed capacity of the mills in Deschutes County and the average annual lumber production of 235 million board feet for the period 1925-34 are in excess of the sustained-yield capacity of the forest land in the county. After 20 years of operation there are about 210,000 acres of cutover land in the county, of which 171,000 acres contains practically no trees of saw-timber size. Without cutting of publicly owned timber, the remaining 1.9 billion feet of privately owned timber in the county together with what logs might be economically hauled in from Jefferson and Klamath Counties could sustain the 1925-34 rate of production for from 15 to 25 years, depending on how far it may prove feasible to transport logs during the next decade or two. When the privately owned timber is gone, restricting the average annual cut of public timber tributary to Deschutes County to that allowable under a sustained-yield policy will mean a drastic reduction of the average annual lumber production of the county.

7/ AREA IRRIGATED IN 1929 ACCORDING TO THE FIFTEENTH CENSUS OF THE UNITED STATES.

FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 1. VOLUME OF TIMBER BY SPECIES AND BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

TREES 12" AND MORE IN D.B.H.
THOUSANDS OF BOARD FEET, LOG SCALE, SCRIBNER RULE

SUBVEY SYMBOL	SPECIES[1]	PRIVATE	STATE		COUNTY	MUNICIPAL	FEDERAL			TOTAL
			AVAILABLE FOR CUTTING	RESERVED FROM CUTTING			PUBLIC DOMAIN	NATIONAL FOREST AVAILABLE FOR CUTTING	NATIONAL FOREST RESERVED FROM CUTTING	
Y	PONDEROSA PINE	1,881,659	5,044	60	9,148	2,416	2/37,143	3,019,445	9,906	4,964,821
SP	SUGAR PINE	120						5,535		5,655
W	WESTERN WHITE PINE	315						62,610	124	63,049
LP	LODGEPOLE PINE	2,450			6		2,088	109,808	708	115,060
DF	DOUGLAS FIR	2,630						104,502	475	107,607
IC	INCENSE CEDAR							1,520		1,520
MH	MOUNTAIN HEMLOCK	4,748			1,925			1,003,842	3,440	1,013,955
WF	WHITE FIR & LOWLAND WHITE FIR	6,947			576		470	272,986	5,190	286,169
NF	NOBLE FIR							5,396		5,396
AF	ALPINE FIR	15						23,351		23,366
WL	WESTERN LARCH	116				388		293		797
ES	ENGELMANN SPRUCE	2,076					315	38,487	3,190	44,068
HWD	NORTHERN BLACK COTTONWOOD & ASPEN	50						50		100
	TOTAL	1,901,126	5,044	60	11,655	2,804	40,016	4,647,825	23,033	6,631,563

VOLUME OF CORDWOOD SPECIES
TREES 4" OR MORE IN DIAMETER 1' ABOVE GROUND
CORDS

WJ	WESTERN JUNIPER	519,918	36,698	230	146,559	507	803,494	180		1,507,586

1/ IN ADDITION TO THE SPECIES LISTED WHITEBARK PINE IS KNOWN TO OCCUR IN THIS COUNTY, BUT IN NEGLIGIBLE QUANTITY.
2/ INCLUDES 1,050 M BOARD FEET ON RAILROAD SELECTION PENDING AREAS.

FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 2. AREA, IN ACRES, OF ALL FOREST COVER TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

SURVEY TYPE NO.	TYPE DEFINITION	PRIVATE	STATE		COUNTY	MUNICIPAL	FEDERAL			TOTAL
			AVAILABLE FOR CUTTING	RESERVED FROM CUTTING			PUBLIC DOMAIN 1/	NATIONAL FOREST AVAILABLE FOR CUTTING	NATIONAL FOREST RESERVED FROM CUTTING	
	WOODLAND:									
5A	DENSE JUNIPER: JUNIPER FORESTS OCCUPYING 10% OR MORE OF THE LAND AREA	64,510	4,440	20	17,505	50	101,645	45		186,215
5B	SCATTERED JUNIPER: JUNIPER FORESTS OCCUPYING 5 TO 10% OF THE LAND AREA	45,725	4,495	60	14,470	125	66,450	10		131,335
5½	PONDEROSA PINE WOODLAND: SCATTERED STANDS OF MATURE PONDEROSA PINE ON UNFAVORABLE SITES	14,980	325	20	1,925		3,600	4,250		25,100
	PONDEROSA PINE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE									
20	PONDEROSA PINE, LARGE: FORESTS CONTAINING 50 TO 80% OF PONDEROSA PINE, MORE THAN 22" DBH	280						6,920	80	7,280
20.5	PURE PONDEROSA PINE, LARGE: FORESTS CONTAINING 80% OR MORE OF PONDEROSA PINE, MORE THAN 22" DBH	135,120	385		295	260	3,000	190,530	755	330,345
20A	PONDEROSA PINE-SUGAR PINE MIXTURE, LARGE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE AND 20% OR MORE OF SUGAR PINE, MORE THAN 22" DBH	10						1,135		1,145
21	PONDEROSA PINE, SMALL: 12 TO 20" DBH	12,955	25	20	2,400		395	37,960		53,755
22	PONDEROSA PINE SEEDLINGS, SAPLINGS, AND POLES: LESS THAN 12" DBH	88,290	425		4,545	130	1,175	83,960		178,525
	PINE MIXTURE: MIXED FORESTS CONTAINING 20 TO 50% OF PONDEROSA PINE									
27	PINE MIXTURE, LARGE: 12" OR MORE DBH	625				70		1,440		2,135
28	PINE MIXTURE, SMALL: LESS THAN 12" DBH							115		115
	DOUGLAS FIR: FORESTS CONTAINING 60% OR MORE OF DOUGLAS FIR									
7	DOUGLAS FIR, SMALL OLD GROWTH: 22 TO 40" DBH	10						2,430		2,440
	FIR-MOUNTAIN HEMLOCK: FORESTS CONTAINING 50% OR MORE OF NOBLE FIR, WHITE FIR, ALPINE FIR, OR MOUNTAIN HEMLOCK, OR ANY COMBINATION OF THESE SPECIES									
23	FIR-MOUNTAIN HEMLOCK, LARGE: 12" OR MORE DBH	205			275			83,335	820	84,635
24	FIR-MOUNTAIN HEMLOCK, SMALL: LESS THAN 12" DBH							5,215		5,215
	UPPER SLOPE MIXTURE: MIXED FORESTS OF WESTERN LARCH, DOUGLAS FIR, ENGLEMANN SPRUCE, WHITE FIR, ALPINE FIR, LODGEPOLE PINE, OR WHITE PINE; OCCASIONALLY OTHER SPECIES									
27½	UPPER SLOPE MIXTURE, LARGE: 12" OR MORE DBH	250					45	1,260	145	1,700
	WHITE FIR: FORESTS CONTAINING 50% OR MORE OF WHITE FIR									
29	WHITE FIR, LARGE: 12" OR MORE DBH	170			10		85	5,345		5,610
	LODGEPOLE PINE: FORESTS CONTAINING 50% OR MORE OF LODGEPOLE PINE									
25	LODGEPOLE PINE, LARGE: 12" OR MORE DBH	145						4,315		4,460
26	LODGEPOLE PINE, MEDIUM: 6 TO 10" DBH	29,905	145		3,090		18,980	243,615	2,550	298,285
26A	LODGEPOLE PINE, SMALL: LESS THAN 6" DBH	2,715			410		1,040	30,635	2,580	37,380
	HARDWOOD: FORESTS CONTAINING 50% OR MORE OF HARDWOODS									
31	HARDWOODS, SMALL: LESS THAN 12" DBH							120		120
33	SUBALPINE: FORESTS AT UPPER LIMITS OF TREE GROWTH, USUALLY UNMERCHANTABLE	120			55			37,495	15	37,685
	NONRESTOCKED CUTOVERS: LOGGED AREAS NOT SATISFACTORILY RESTOCKED AND NOT CARRYING A RESIDUAL STAND OF 1 M OR MORE PER ACRE									
35A	CUT SINCE THE BEGINNING OF 1920	4,165			10		140	4,435		8,750
35B	CUT BEFORE 1920	800						305		1,105
	DEFORESTED AREAS: NONRESTOCKED AREAS DEFORESTED OTHERWISE THAN BY CUTTING									
37	DEFORESTED BURNS	1,590	25		565		505	2,895		5,570
37B	AREAS ON WHICH STAND HAS BEEN KILLED BY INSECTS						75	245		320
38	NONCOMMERCIAL ROCKY AREAS	1,560	840				305	6,560	160	9,425
	TOTALS FOR FOREST LAND	404,130	11,105	120	45,555	635	197,440	754,560	7,105	1,420,650
1 & 2	NONFOREST LAND: CULTIVATED, GRASS, SAGEBRUSH, BARRENS, CITIES, UNMEANDERED WATER SURFACE, ETC.	494,560 ACRES OF NONFOREST LAND UNCLASSIFIED BY OWNERSHIP						45,235	1,155	540,950
	TOTALS FOR COUNTY							799,795	8,260	2/ 1,961,600

1/ INCLUDING 110 ACRES OF RAILROAD SELECTION PENDING.
2/ THE TOTAL AREA OF THE COUNTY ACCORDING TO THE BUREAU OF THE CENSUS IS 1,961,600 ACRES. OF THIS TOTAL, 1,467,040 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 3. AREA, IN ACRES, OF GENERALIZED FOREST TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

TYPE DEFINITION		PRIVATE	STATE		COUNTY	MUNICIPAL	FEDERAL			TOTAL
			AVAILABLE FOR CUTTING	RESERVED FROM CUTTING			PUBLIC DOMAIN 1/	NATIONAL FOREST AVAILABLE FOR CUTTING	NATIONAL FOREST RESERVED FROM CUTTING	
WOODLAND: JUNIPER										
SURVEY TYPES 5A AND 5B		110,235	8,935	80	31,975	175	168,095	55		319,550
HARDWOODS: ASPEN AND COTTONWOOD										
SURVEY TYPE 31								120		120
PONDEROSA PINE AND SUGAR PINE MORE THAN 12" DBH										
SURVEY TYPES 5½, 20.5, 20, 20A, 21, AND 27		163,970	735	40	4,620	330	6,995	242,235	835	419,760
PONDEROSA PINE LESS THAN 12" DBH	ON CUTOVER AREAS	87,690	425		4,365	130	655	77,840		171,105
SURVEY TYPES 22 AND 28	ON OLD BURNS	600			180		520	6,235		7,535
	TOTAL	88,290	425		4,545	130	1,175	84,075		178,640
CONIFERS 12" OR MORE DBH OTHER THAN PONDEROSA PINE, SUGAR PINE AND LODGEPOLE PINE										
SURVEY TYPES 7, 23, 27½, AND 29		635			285		130	92,370	965	94,385
CONIFERS LESS THAN 12" DBH OTHER THAN PONDEROSA PINE AND LODGEPOLE PINE	ON CUTOVER AREAS									
SURVEY TYPE 24	ON OLD BURNS							5,215		5,215
	TOTAL							5,215		5,215
LODGEPOLE PINE 12" OR MORE DBH										
SURVEY TYPE 25		145						4,315		4,460
LODGEPOLE PINE LESS THAN 12" DBH										
SURVEY TYPES 26 AND 26A		32,620	145		3,500		20,020	274,250	5,130	335,665
NONCOMMERCIAL AREAS										
SURVEY TYPES 33 AND 38		1,680	840		55		305	44,055	175	47,110
NONRESTOCKED CUTOVER AREAS AND DEFORESTED BURNS										
SURVEY TYPES 35A, 35B, 37, AND 37B		6,555	25		575		720	7,870		15,745
TOTALS FOR FOREST LAND		404,130	11,105	120	45,555	635	197,440	754,560	7,105	1,420,650
NONFOREST LAND										
SURVEY TYPES 1 AND 2		494,560 ACRES OF NONFOREST LAND UNCLASSIFIED BY OWNERSHIP						45,235	1,155	540,950
TOTALS FOR COUNTY								799,795	8,260	2/ 1,961,600

1/ INCLUDING 110 ACRES OF RAILROAD SELECTION PENDING.
2/ THE TOTAL AREA OF THE COUNTY ACCORDING TO THE BUREAU OF THE CENSUS IS 1,961,600 ACRES. OF THIS TOTAL 1,467,040 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 4. AREA OF FOREST LAND, BY SITE QUALITY
DATA CORRECTED TO JANUARY 1, 1935

TYPE	SITE QUALITY CLASS 1/		AREA			
			ACRES	PERCENTAGE OF— CONIFEROUS FOREST LAND CLASSIFIED AS TO SITE QUALITY	PERCENTAGE OF— TOTAL FOREST LAND 2/	PERCENTAGE OF— TOTAL AREA OF COUNTY
PONDEROSA PINE, PONDEROSA PINE MIXTURE, SUGAR PINE MIXTURE, AND WHITE FIR	PONDEROSA PINE	II	1,120	0.2	0.1	0.1
		III	23,525	3.3	1.7	1.2
		IV	555,975	78.3	39.1	28.3
		V	34,970	4.9	2.4	1.8
			615,590	86.7	43.3	31.4
DOUGLAS FIR, FIR-MOUNTAIN HEMLOCK, AND UPPER-SLOPE MIXTURE	DOUGLAS FIR					
		IV	3,775	0.5	0.3	0.2
		V	90,635	12.8	6.4	4.6
			94,410	13.3	6.7	4.8
TOTAL			710,000	100.0	50.0	36.2
LODGEPOLE PINE			343,530 3/		24.2	17.5
JUNIPER			319,890 4/		22.5	16.3
NONCOMMERCIAL ROCKY AREAS			9,425		0.7	0.5
SUBALPINE			37,685		2.6	1.9
HARDWOOD			120			
TOTAL			710,650		50.0	36.2
GRAND TOTAL FOREST LAND			1,420,650		100.0	72.4

1/ THE "SITE QUALITY" OF A FOREST AREA IS ITS RELATIVE PRODUCTIVE CAPACITY, DETERMINED BY CLIMATIC, SOIL, TOPOGRAPHIC, AND OTHER FACTORS. THE INDEX OF SITE QUALITY IS THE AVERAGE HEIGHT OF THE DOMINANT STAND AT THE AGE OF 100 YEARS. SIX SITE QUALITY CLASSES ARE RECOGNIZED FOR PONDEROSA PINE AND FIVE FOR DOUGLAS FIR, CLASS I BEING IN EACH CASE THE HIGHEST. IN THE SURVEY THE PONDEROSA PINE AND DOUGLAS FIR CLASSIFICATIONS, RESPECTIVELY, WERE USED NOT ONLY FOR TYPES OF WHICH THESE SPECIES ARE CHARACTERISTIC COMPONENTS BUT FOR OTHER TYPES FOR WHICH NO SITE QUALITY CLASSIFICATIONS HAVE BEEN DEVELOPED.

2/ THE COUNTY HAS A TOTAL AREA OF 1,961,600 ACRES, (1930 U. S. CENSUS) OF WHICH 1,420,650 ACRES (72.4 PERCENT) IS FOREST LAND AND 540,950 ACRES (27.6 PERCENT) IS NONFOREST LAND.

3/ INCLUDES 3,405 ACRES OF TYPE 37.

4/ INCLUDES 340 ACRES OF TYPE 37.

FOREST STATISTICS FOR DESCHUTES COUNTY, OREGON

FROM INVENTORY PHASE OF FOREST SURVEY

FIGURE 2. DISTRIBUTION OF SAW-TIMBER VOLUME BY SPECIES AND OWNERSHIP CLASS (FROM TABLE 1)

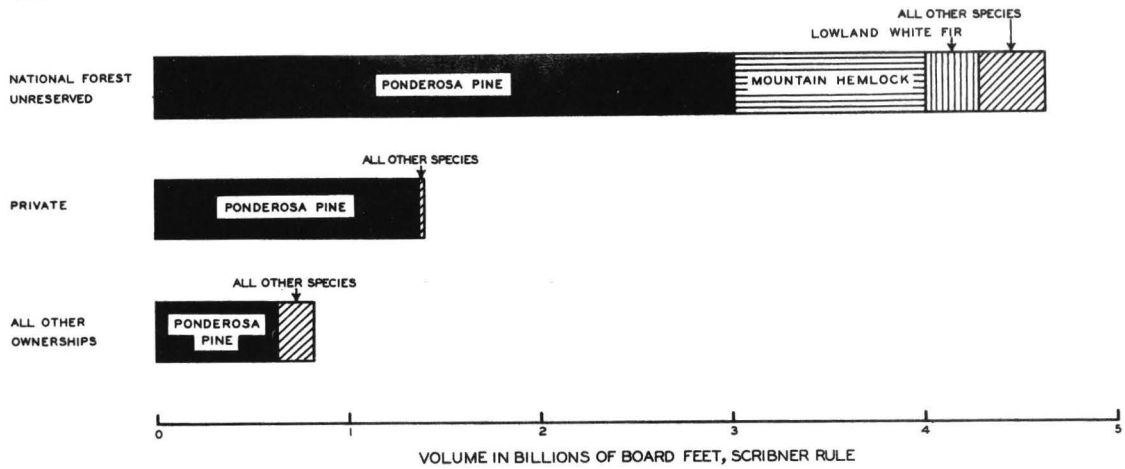

FIGURE 3. OWNERSHIP OF FOREST LAND (FROM TABLE 2)

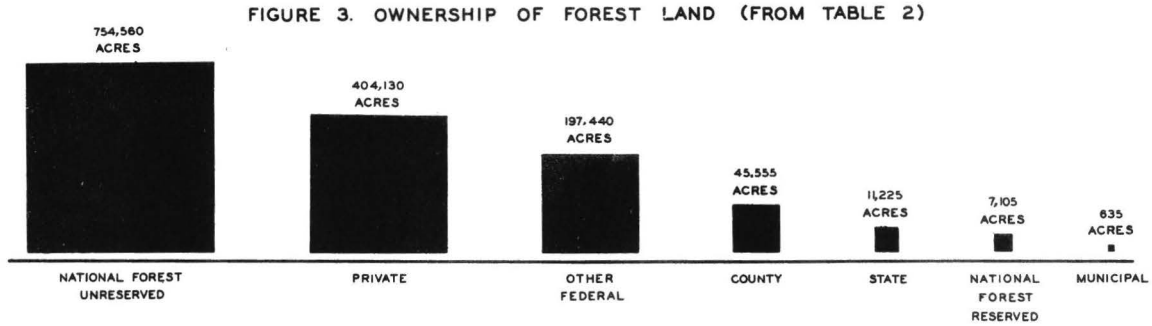

FIGURE 4. DISTRIBUTION OF FOREST LAND BY GENERALIZED TYPES, ALL OWNERSHIP CLASSES (FROM TABLE 3)